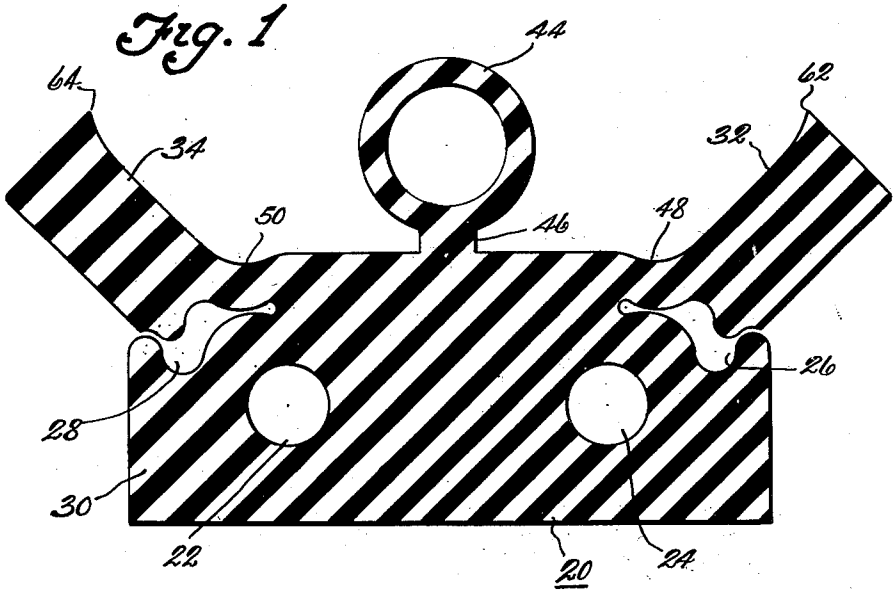
April 1, 1952 R. J. BUSH 2,591,048

CONNECTOR STRIP

Filed Feb. 2, 1949

Fig. 1



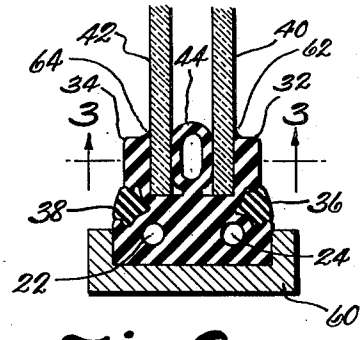


Fig. 2

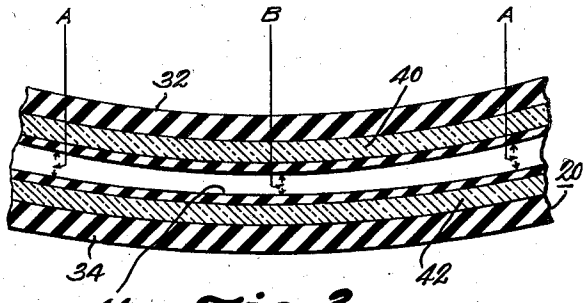


Fig. 3

INVENTOR
RUSSELL J. BUSH

by Spencer Hardman & Fehr
his ATTORNEYS

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CONNECTOR STRIP

Russell J. Bush, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

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2 Claims. (Cl. 20—56.5)

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This invention relates to connector strips and is particularly concerned with resilient mounting strips for use with double pane, curved glass windows.

It is a prime object of this invention to provide a connector or mounting strip for a double pane, curved glass window wherein a resilient and easily conformable tubular sealing member runs between the panes of glass and completely seals the panes one from the other.

Due to the very method of manufacture, the curvature of glass is difficult to control and maintain within very close limits that is to say, over the extent of a curved sheet of glass for a window in a train, plane fuselage, or automotive installation etc. The curvature of the two panes of glass making up a double window will vary one from another as much as ⅛ of an inch at different points along their extent. For this reason when using conventional types of connector strips as shown in Eichner Patent 2,189,137, the panes are spaced a given and set distance by interposed rubber part of the connector which has very little resiliency to take up variations and in many cases when the filler strips are inserted the panes are broken. Even if this is not the case, the panes are not always sealed due to variations in curvature therebetween or are placed under undue stress. In the present invention a longitudinal tubular or bulb-like member is provided, integral with the connector strip, which is readily conformable to variations in curvature and which is so resilient due to its tubular cross section that it presents no harmful stress against the glass when the filler strips are positioned.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing, wherein a preferred embodiment of the present invention is clearly shown.

In the drawings:

Fig. 1 is a cross sectional view of the connector strip with the filler strips removed.

Fig. 2 is a view in section of a dual pane window with the filler strips in position and the connector strip mounted within a metal channel.

Fig. 3 is a fragmentary sectional view taken in the direction of the arrows 3—3 of Fig. 2 showing the variations of curvature between the two panes of glass etc.

Referring particularly to the drawings, a connector strip 20 is shown in Fig. 1 which includes longitudinal relief holes therethrough 22 and 24. The strip 20 also includes longitudinal channels 26 and 28 in a body member 30 which are positioned beneath resilient sealing lips 32 and 34 respectively. The channels 26 and 28 have a very specific interlocking cross section which is adapted to receive strip like fillers 36 and 38 which are adapted to be pressed into the channels 26 and 28 when the glass 40 and 42 is in position for rotating the sealing lips into sealing relation with the panes.

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It will be noted that at the center top portion of the strip 20 a longitudinal bulb-like or tubular sealing member 44 is provided which is hollow and which has a relatively thin wall and is attached to the connector strip 20 through a narrow neck portion 46. When the glass panes 40 and 42 are in position and the lips 32 and 34 are revolved around their connections 48 and 50 with the main body portion 30 of the strip 20 into contact with the glass and the fillers 36 and 38 have been positioned within the channels 26 and 28, the sealing member 44 is compressed to form a generally oval cross section as shown in Fig. 2. This cross section may vary through the extent of the window due to the very resilient nature of the sealing member 44 and will seal the two panes of glass one from the other over a wide variation in curvature. For example, the panes may be as far apart as the free diameter of the sealing bulb 44 or they may be as close together as the thickness of the neck portion 46. In either case the sealing member 44 will resiliently conform to the necessary shape to accommodate the glasses without placing them under undue pressure. The variations in curvature in the curved glass members are shown in Fig. 3 wherein the curvature at points A is different than at point B for example and this variation in curvature will occur in most instances where curved glass panes are used.

In use, the connector strip 20 is preferably positioned within a metal channel 60 where it may be cemented or held by any other suitable means. The holes 22 and 24 increase the resiliency of the channels 26 and 28 thereby making it easier to position the filler strips 36 and 38. In some cases it may be desirable to leave the longitudinal holes out of the structure, however, this is a matter of trial in order to get the most satisfactory installation possible.

The strip 20 is preferably an extruded material which may be made from any suitable rubber like compounds, for example, compounded natural rubber, compounded butadiene styrene copolymers, compounded polychloroprene, compounded butadiene-acrylonitrile copolymers, mixtures of any of the above, or for that matter any resilient or elastic deformable material which is

found to be satisfactory. In other words, the particular material from which the connector strip is formed is not the basis for this invention and may vary over wide limits according to the particular raw material at hand, the only limitation being that the strip has sufficient resiliency to permit flexing of the bulb-like sealing member **44** and sealing of lips **32** and **34** against the glass panes.

It will be noted that lips **32** and **34** include inwardly extending end portions **62** and **64** respectively which deform against the glass as shown in Fig. 2 and aid in sealing the glass from the surrounding atmosphere.

Another type of sealing strip for a single pane window is shown in Eichner Patent 2,189,138 and utilizes a similar principle of sealing through the use of a filler strip as the embodiment shown in the previously mentioned Eichner Patent 2,189,137. In each case the use of filler strips and sealing lips against the pane is similar to the strip described herein, the invention residing here in the tubular resilient central sealing member. As previously stated, the specific use of this type of sealing strip is with curved type windows since the strip shown in the Eichner patents is very satisfactory for use with straight pane windows. However, it should be understood that the present strip may be used with flat window panes with a similar degree of success.

While the embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted.

What is claimed is as follows:

1. A connector strip comprising a body portion of elastic deformable material having a substantially U-shaped cross section, the arms of said U being integrally connected to the main body portion by thin neck portions and being capable of rotatable movement toward a perpendicular position, separate filler strips insertable in grooves within said body portion for rotating said arms to a perpendicular position, and an elastic compressible hollow sealing member positioned intermediate said arms and extending the length of the strip, said hollow member being integrally connected to said body portion by an elastic neck portion which permits lateral movement of said sealing member relative to said body portion.

2. An elastic deformable mounting strip for use with a pair of glass panes arranged in tandem relation and spaced from one another, said strip comprising a main body portion having an elastic compressible hollow sealing member integrally connected thereto by a laterally bendable neck portion for permitting lateral movement of said hollow sealing member, said hollow member being adapted to serve as a spacer member between said panes, a pair of deformable flanges on opposite sides of said main body portion and integrally connected thereto by relatively narrow elastic neck portions, a channel in said body member immediately adjacent each of said flanges, and a pair of filler strips for wedging into said channels and thereby forcing said flanges into snug sealing relation with said panes and simultaneously pressing the panes against opposed sides of the hollow sealing member, said hollow sealing member being movable by lateral pressure thereupon to substantially equalize the pressure of said panes thereupon.

RUSSELL J. BUSH.

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